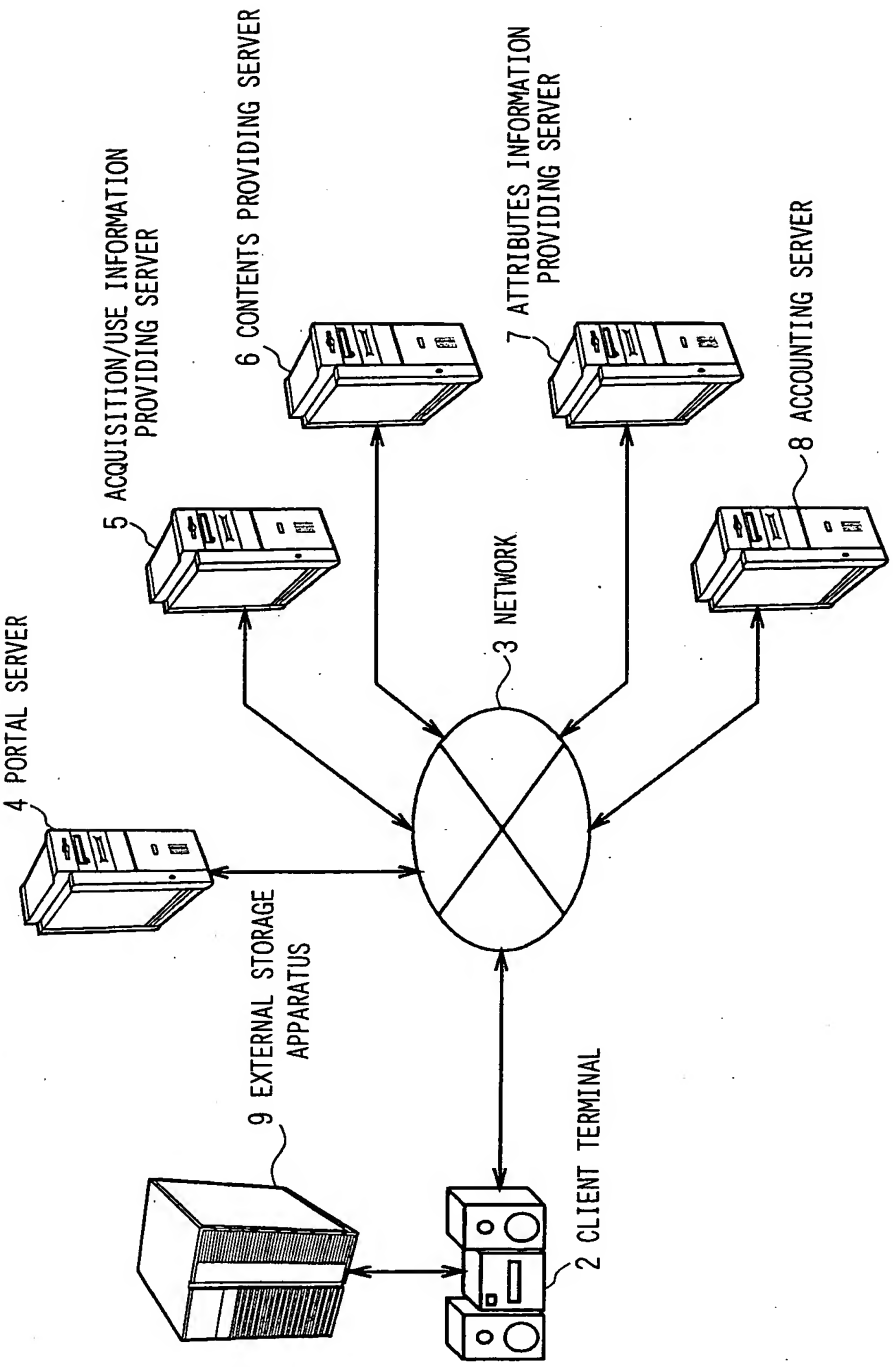
1 DATA DELIVERY SYSTEM
2 CLIENT TERMINAL
3 NETWORK
4 PORTAL SERVER
5 ACQUISITION/USE INFORMATION PROVIDING SERVER
6 CONTENTS PROVIDING SERVER
7 ATTRIBUTES INFORMATION PROVIDING SERVER
8 ACCOUNTING SERVER
9 EXTERNAL STORAGE APPARATUS

FIG. 1

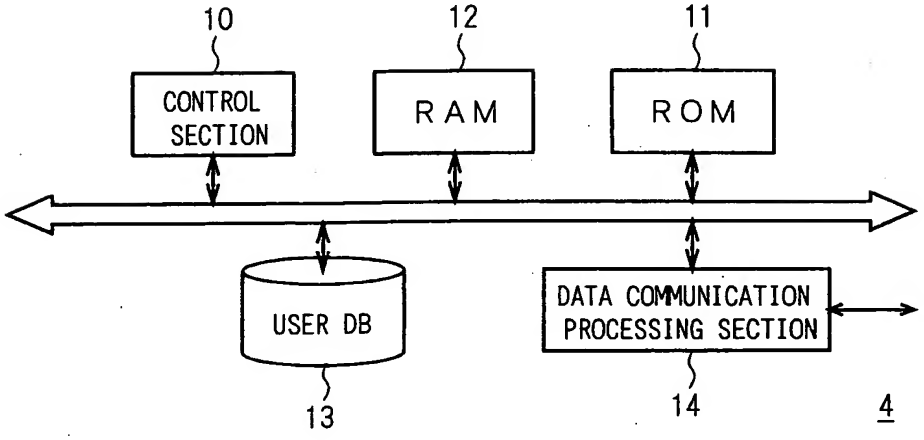
10
12
11
CONTROL SECTION
RAM
ROM
USER DB
DATA COMMUNICATION PROCESSING SECTION
13
14
4

FIG. 2

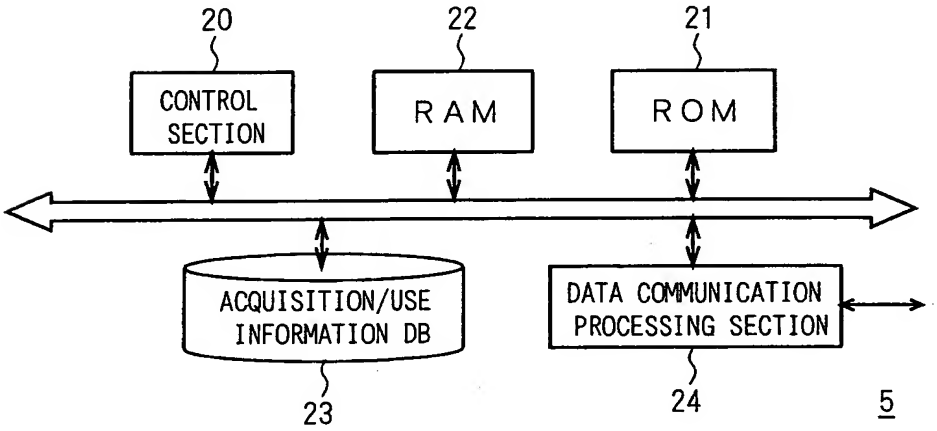
20
22
21
CONTROL SECTION
RAM
ROM
ACQUISITION/USE INFORMATION DB
DATA COMMUNICATION PROCESSING SECTION
23
24
5

FIG. 3

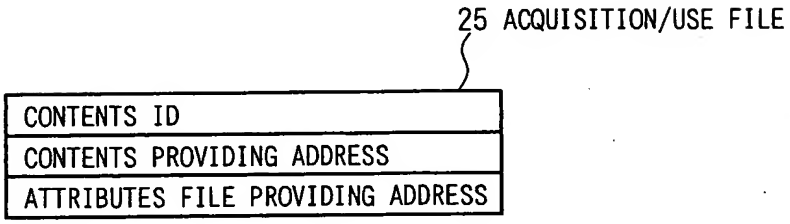
25 ACQUISITION/USE FILE
CONTENTS ID
CONTENTS PROVIDING ADDRESS
ATTRIBUTES FILE PROVIDING ADDRESS

FIG. 4

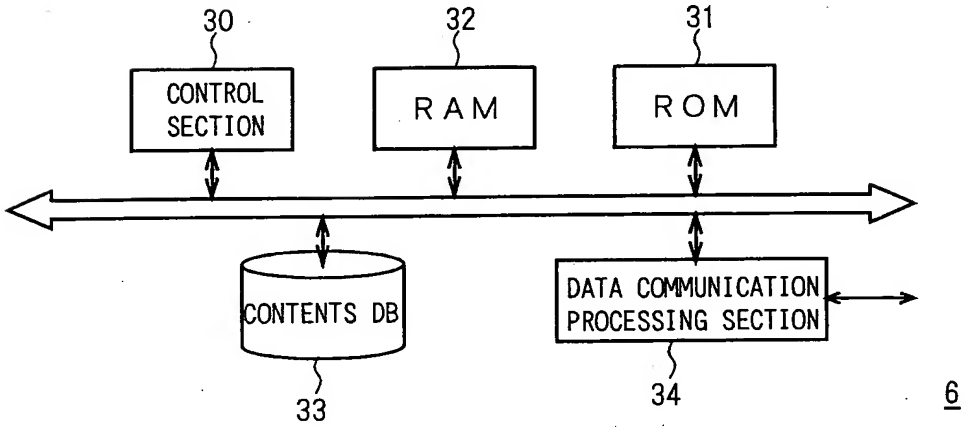
30
32
31
CONTROL SECTION
RAM
ROM
CONTENTS DB
DATA COMMUNICATION PROCESSING SECTION
33
34
6

FIG. 5

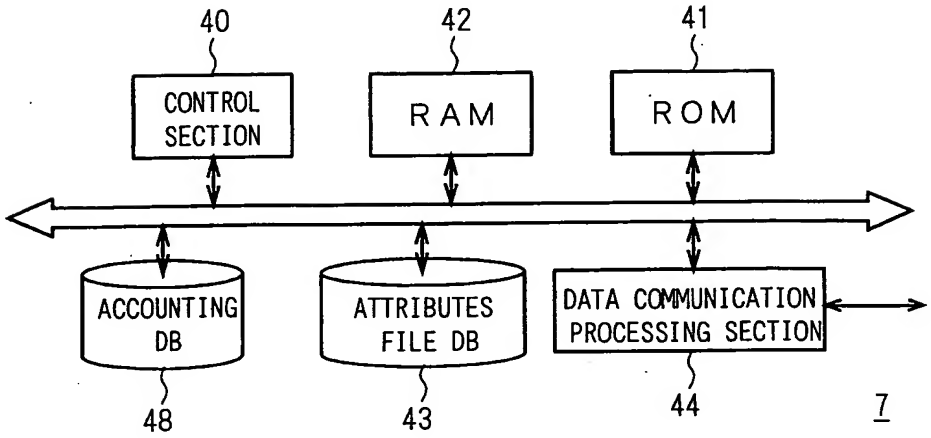

FIG. 6

47 CONTENTS ATTRIBUTES FILE

CONTENTS KEY
CODEC IDENTIFICATION VALUE
CODEC ATTRIBUTES
VALIDITY CHECK FLAG
NUMBER OF CHECKOUTS
CODEC DEPENDENCY INFORMATION
CONTENTS ID
AUTHORIZED REPLAY STARTING TIME AND DATE
AUTHORIZED REPLAY ENDING TIME AND DATE

FIG. 7

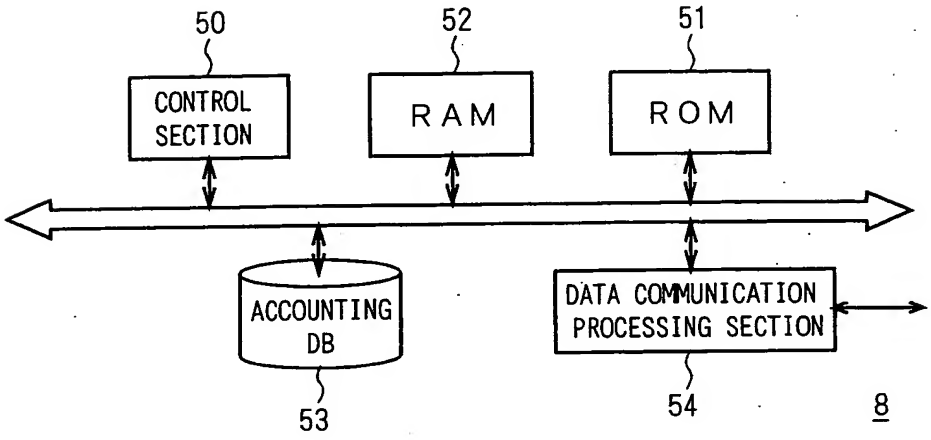
50
52
51
CONTROL SECTION
RAM
ROM
ACCOUNTING DB
DATA COMMUNICATION PROCESSING SECTION
53
54
8

FIG. 8

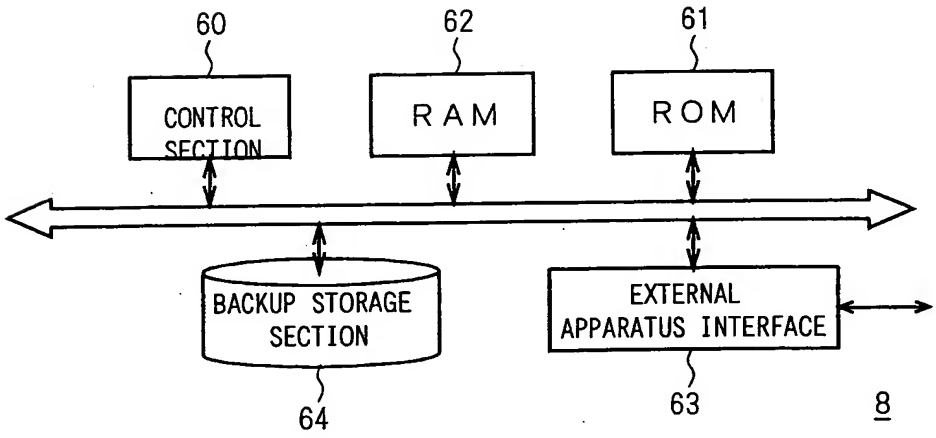
60
62
61
CONTROL SECTION
RAM
ROM
BACKUP STORAGE SECTION
EXTERNAL APPARATUS INTERFACE
64
63
8

FIG. 9

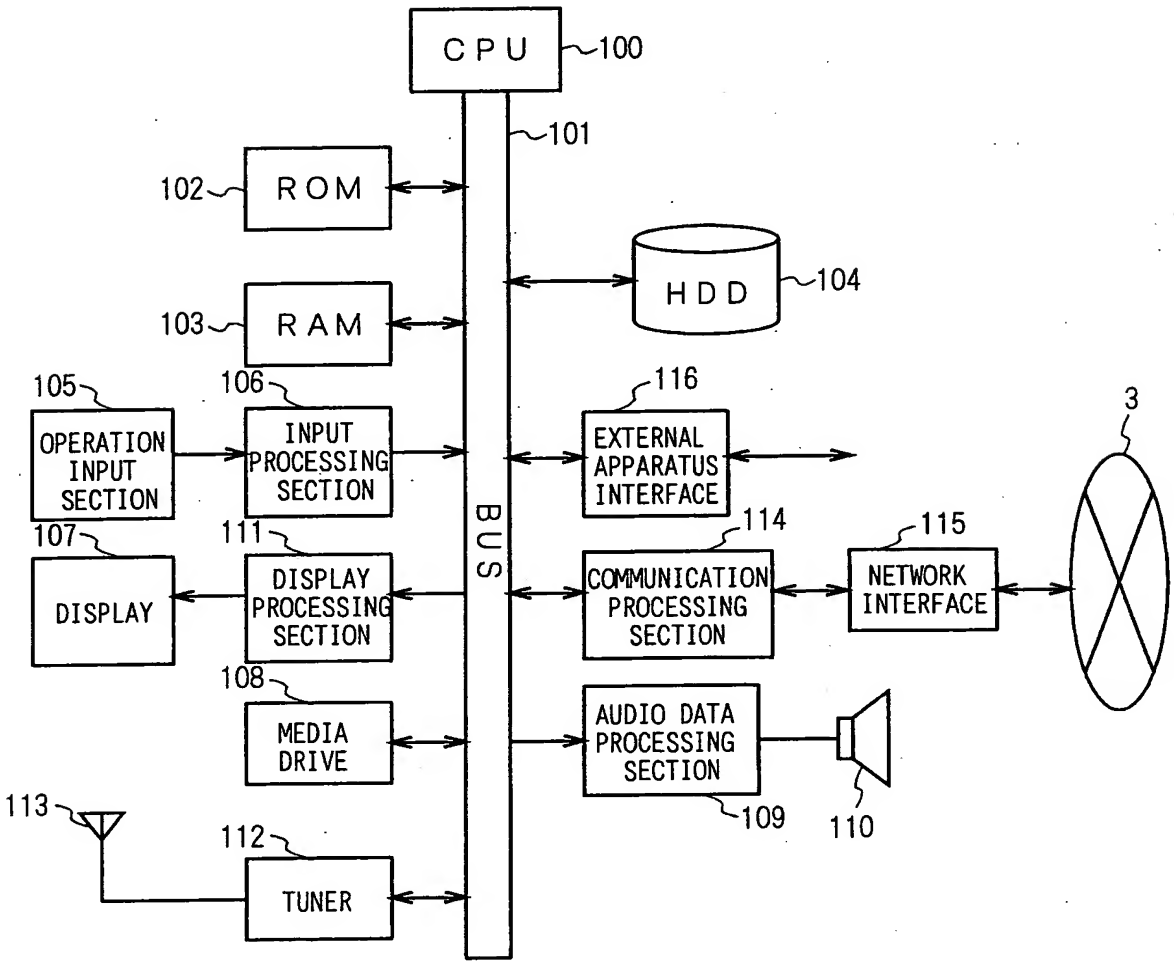
CPU
100
101
ROM
102
RAM
103
HDD
104
105
OPERATION INPUT SECTION
106
INPUT PROCESSING SECTION
116
EXTERNAL APPARATUS INTERFACE
3
107
DISPLAY
111
DISPLAY PROCESSING SECTION
114
COMMUNICATION PROCESSING SECTION
115
NETWORK INTERFACE
BUS
108
MEDIA DRIVE
AUDIO DATA PROCESSING SECTION
109
110
113
112
TUNER

FIG. 10

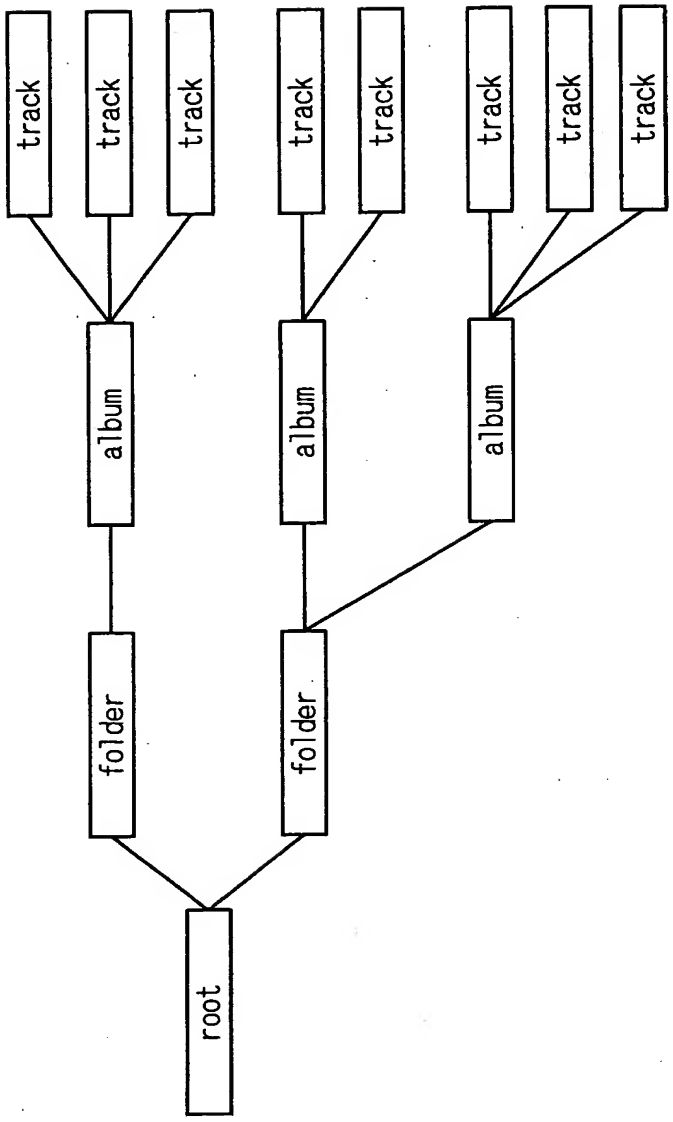
track
track
track
track
track
track
track
track
album
album
album
folder
folder
root

FIG. 11

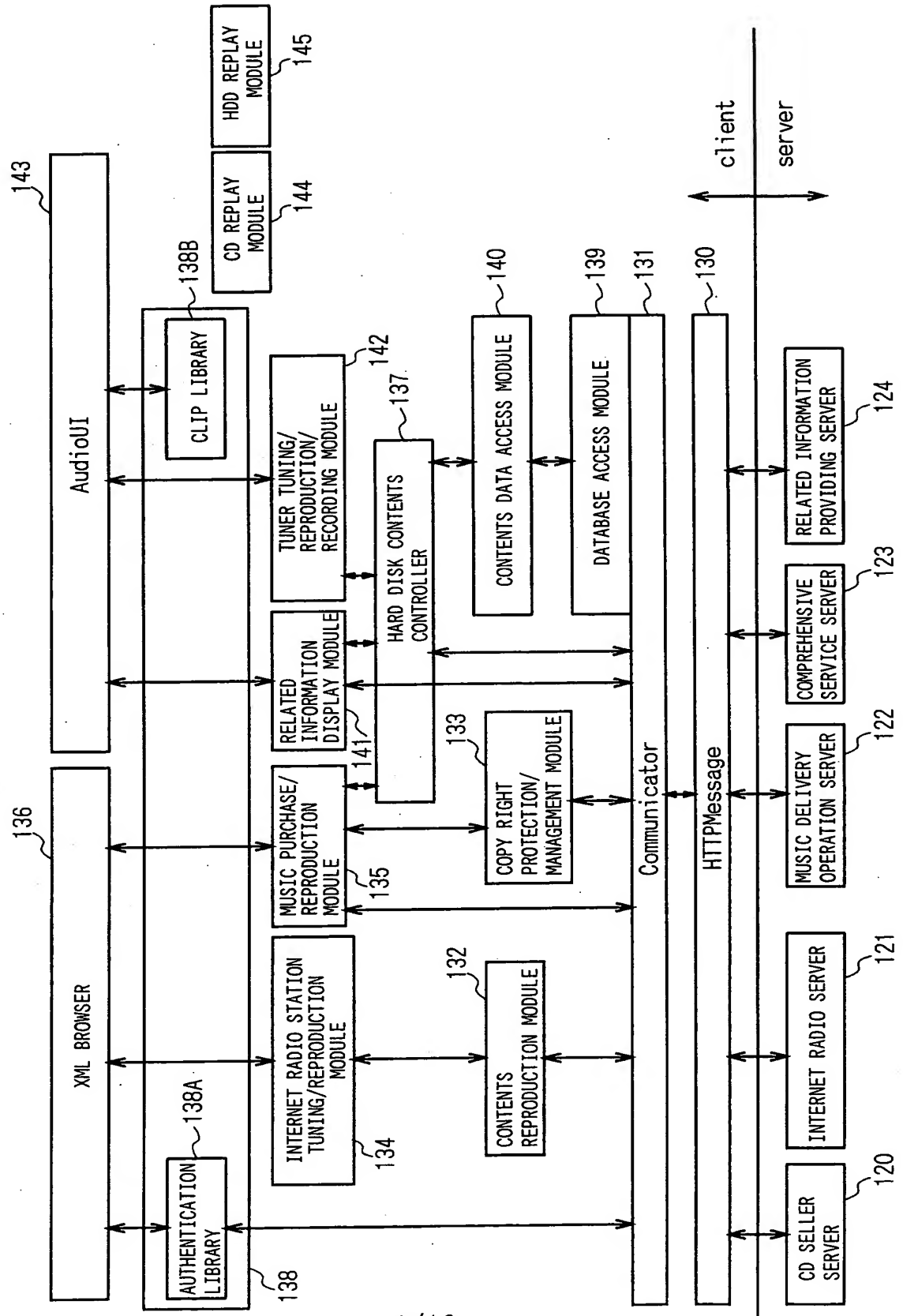
client
server
HTTPMessage
Communicator
AudioUI
XML BROWSER
AUTHENTICATION LIBRARY
CLIP LIBRARY
CD REPLAY MODULE
HDD REPLAY MODULE
TUNER TUNING/ REPRODUCTION/ RECORDING MODULE
HARD DISK CONTENTS CONTROLLER
CONTENTS DATA ACCESS MODULE
DATABASE ACCESS MODULE
RELATED INFORMATION DISPLAY MODULE
MUSIC PURCHASE/ REPRODUCTION MODULE
COPY RIGHT PROTECTION/ MANAGEMENT MODULE
INTERNET RADIO STATION TUNING/REPRODUCTION MODULE
CONTENTS REPRODUCTION MODULE
RELATED INFORMATION PROVIDING SERVER
COMPREHENSIVE SERVICE SERVER
MUSIC DELIVERY OPERATION SERVER
INTERNET RADIO SERVER
CD SELLER SERVER
120
121
122
123
124
130
131
132
133
134
135
136
137
138
138A
138B
139
140
141
142
143
144
145

FIG. 12

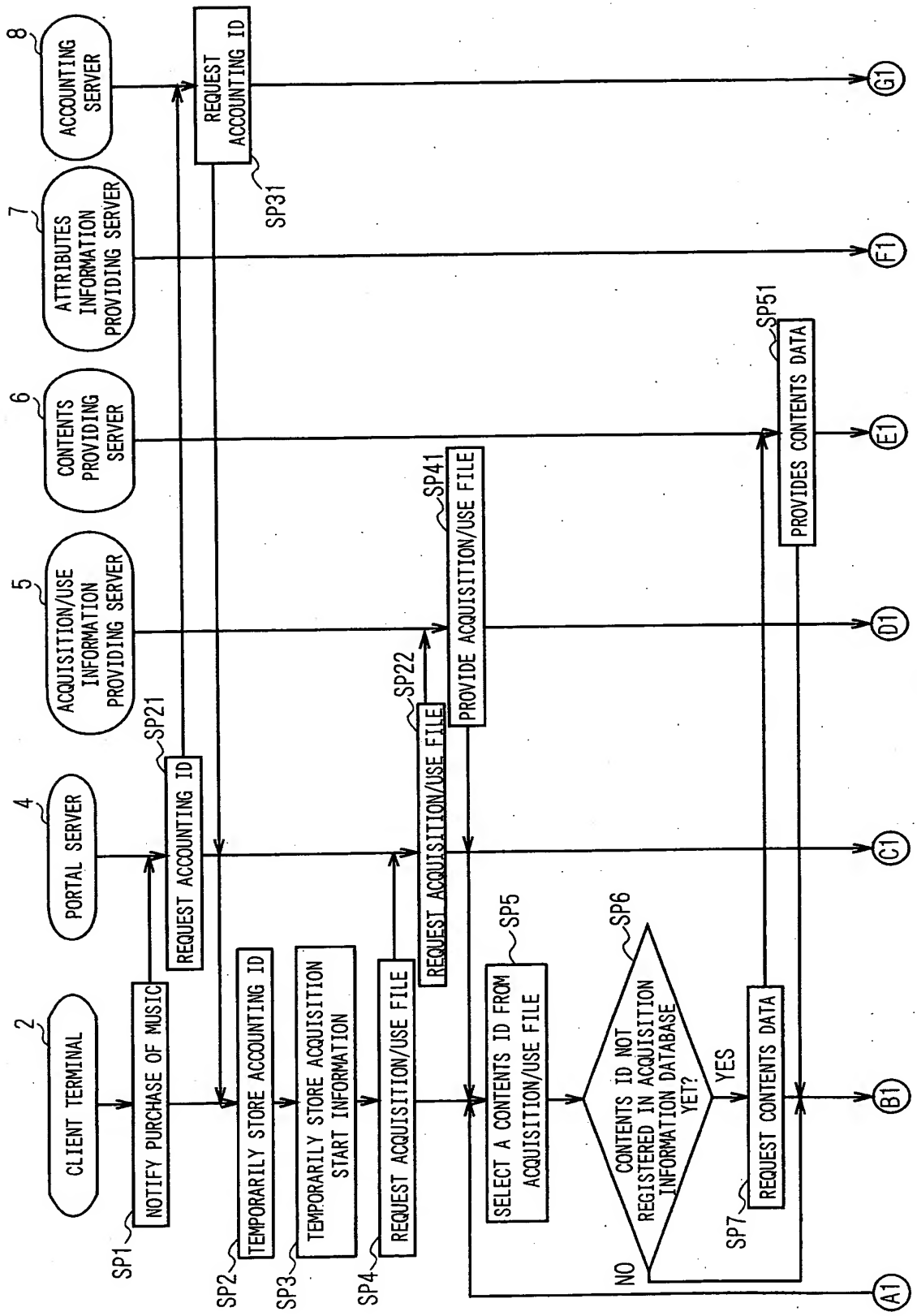
2
CLIENT TERMINAL
NOTIFY PURCHASE OF MUSIC
SP1
4
PORTAL SERVER
REQUEST ACCOUNTING ID
SP21
TEMPORARILY STORE ACCOUNTING ID
SP2
TEMPORARILY STORE ACQUISITION START INFORMATION
SP3
REQUEST ACQUISITION/USE FILE
SP4
5
ACQUISITION/USE INFORMATION PROVIDING SERVER
SP22
REQUEST ACQUISITION/USE FILE
SP41
PROVIDE ACQUISITION/USE FILE
6
CONTENTS PROVIDING SERVER
SELECT A CONTENTS ID FROM ACQUISITION/USE FILE
SP5
CONTENTS ID NOT REGISTERED IN ACQUISITION INFORMATION DATABASE YET?
SP6
NO
YES
REQUEST CONTENTS DATA
SP7
PROVIDES CONTENTS DATA
SP51
7
ATTRIBUTES INFORMATION PROVIDING SERVER
8
ACCOUNTING SERVER
REQUEST ACCOUNTING ID
SP31
A1
B1
C1
D1
E1
F1
G1

FIG. 13

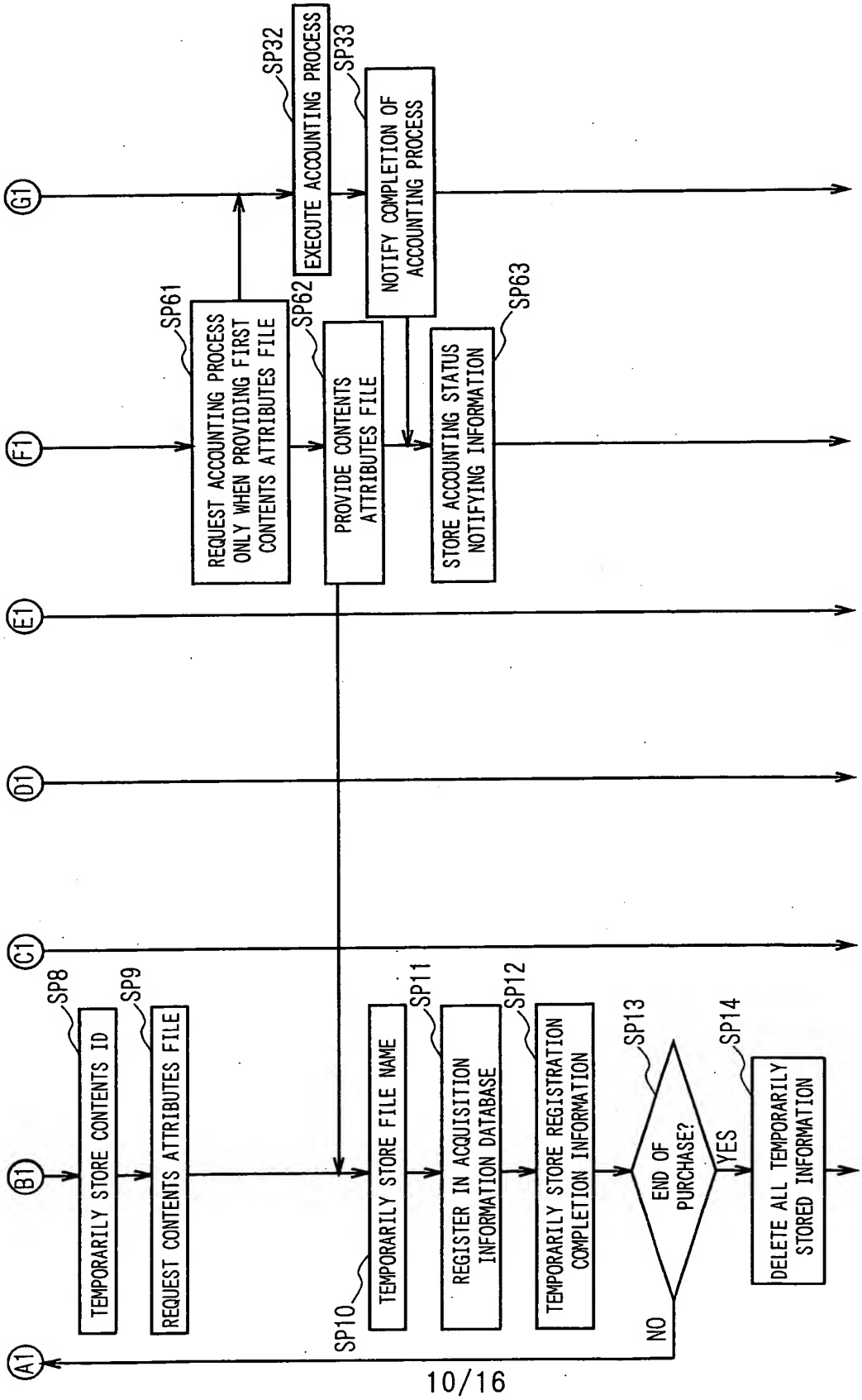
A1
B1
C1
D1
E1
F1
G1
SP8
TEMPORARILY STORE CONTENTS ID
SP9
REQUEST CONTENTS ATTRIBUTES FILE
SP10
TEMPORARILY STORE FILE NAME
SP11
REGISTER IN ACQUISITION INFORMATION DATABASE
SP12
TEMPORARILY STORE REGISTRATION COMPLETION INFORMATION
SP13
END OF PURCHASE?
YES
NO
SP14
DELETE ALL TEMPORARILY STORED INFORMATION
SP61
REQUEST ACCOUNTING PROCESS ONLY WHEN PROVIDING FIRST CONTENTS ATTRIBUTES FILE
SP62
PROVIDE CONTENTS ATTRIBUTES FILE
SP63
STORE ACCOUNTING STATUS NOTIFYING INFORMATION
SP32
EXECUTE ACCOUNTING PROCESS
SP33
NOTIFY COMPLETION OF ACCOUNTING PROCESS

FIG. 14

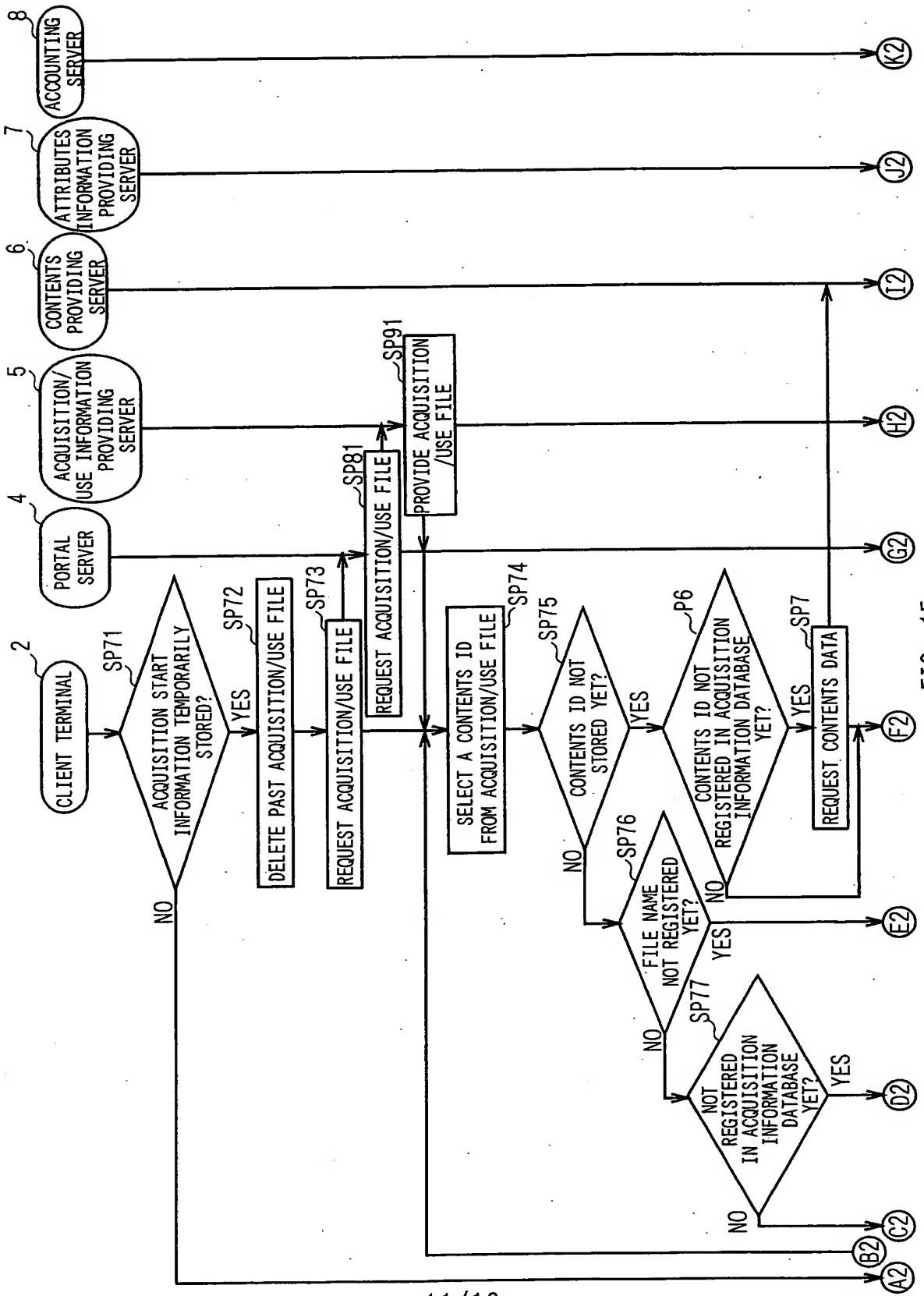
8
ACCOUNTING SERVER
7
ATTRIBUTES INFORMATION PROVIDING SERVER
6
CONTENTS PROVIDING SERVER
5
ACQUISITION/USE INFORMATION PROVIDING SERVER
4
PORTAL SERVER
2
CLIENT TERMINAL
SP71
ACQUISITION START INFORMATION TEMPORARILY STORED?
YES
NO
SP72
DELETE PAST ACQUISITION/USE FILE
SP73
REQUEST ACQUISITION/USE FILE
SP81
REQUEST ACQUISITION/USE FILE
SP91
PROVIDE ACQUISITION /USE FILE
SP74
SELECT A CONTENTS ID FROM ACQUISITION/USE FILE
SP75
CONTENTS ID NOT STORED YET?
YES
NO
P6
CONTENTS ID NOT REGISTERED IN ACQUISITION INFORMATION DATABASE YET?
YES
NO
SP7
REQUEST CONTENTS DATA
SP76
FILE NAME NOT REGISTERED YET?
YES
NO
SP77
NOT REGISTERED IN ACQUISITION INFORMATION DATABASE YET?
YES
NO
K2
J2
I2
H2
G2
F2
E2
D2
C2
B2
A2

FIG. 15

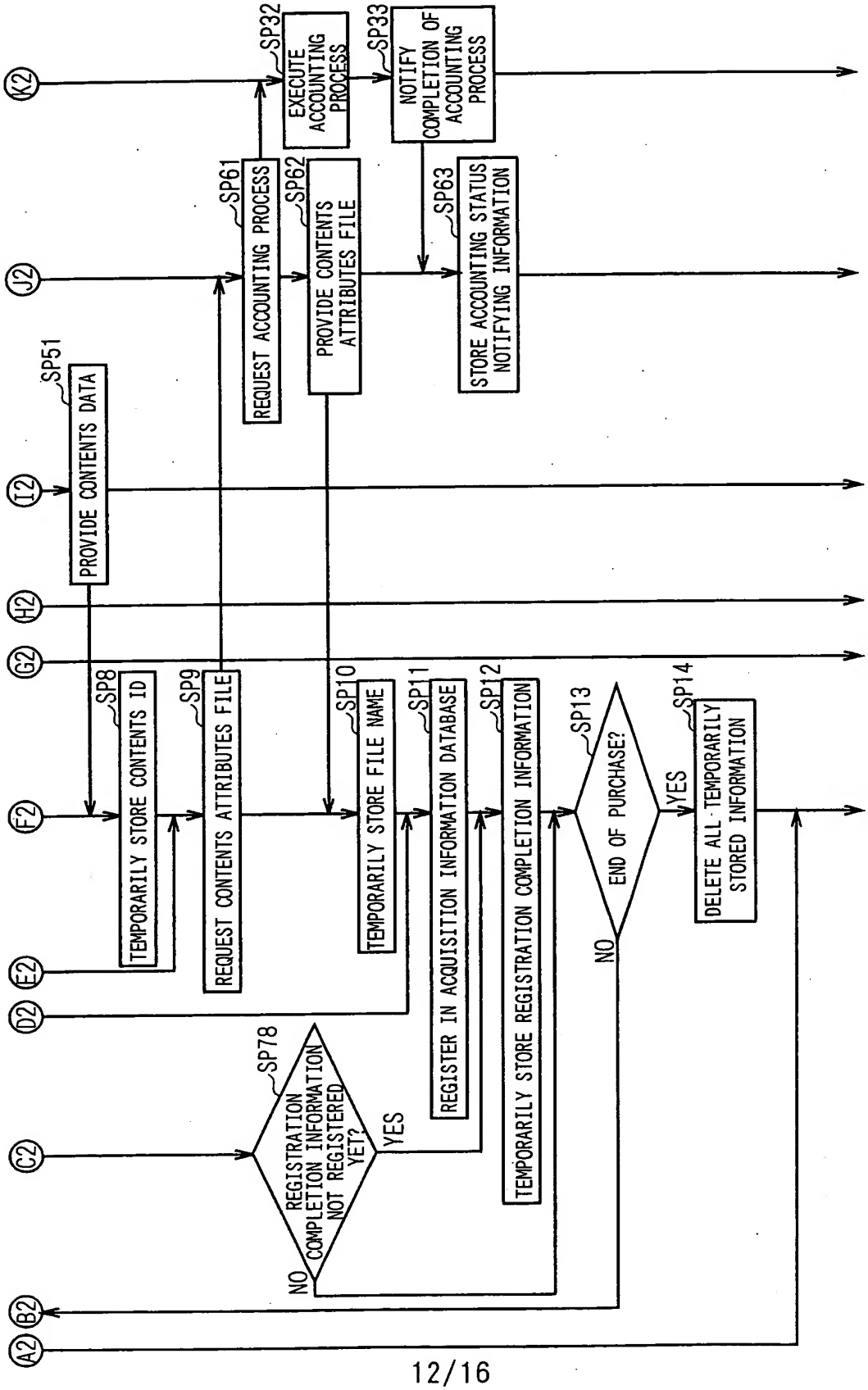
K2
SP32
EXECUTE ACCOUNTING PROCESS
SP33
NOTIFY COMPLETION OF ACCOUNTING PROCESS
J2
SP61
REQUEST ACCOUNTING PROCESS
SP62
PROVIDE CONTENTS ATTRIBUTES FILE
SP63
STORE ACCOUNTING STATUS NOTIFYING INFORMATION
SP51
PROVIDE CONTENTS DATA
I2
H2
G2
SP8
TEMPORARILY STORE CONTENTS ID
SP9
REQUEST CONTENTS ATTRIBUTES FILE
SP10
TEMPORARILY STORE FILE NAME
SP11
REGISTER IN ACQUISITION INFORMATION DATABASE
SP12
TEMPORARILY STORE REGISTRATION COMPLETION INFORMATION
SP13
END OF PURCHASE?
YES
NO
SP14
DELETE ALL TEMPORARILY STORED INFORMATION
F2
E2
D2
SP78
REGISTRATION COMPLETION INFORMATION NOT REGISTERED YET?
YES
NO
C2
B2
A2

FIG. 16

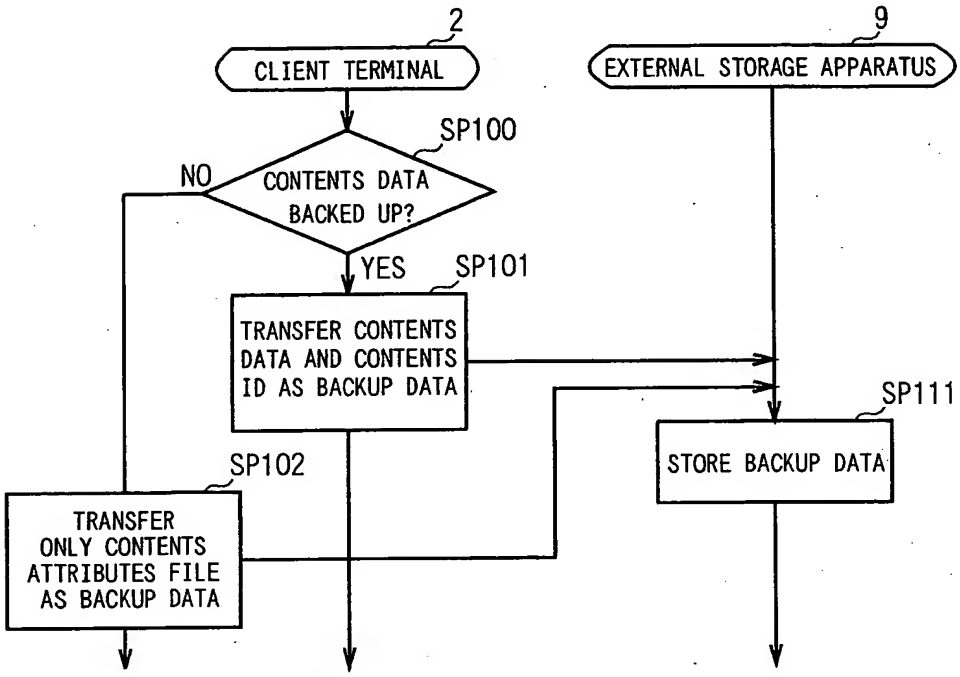
2
CLIENT TERMINAL
9
EXTERNAL STORAGE APPARATUS
SP100
CONTENTS DATA BACKED UP?
NO
YES
SP101
TRANSFER CONTENTS DATA AND CONTENTS ID AS BACKUP DATA
SP111
STORE BACKUP DATA
SP102
TRANSFER ONLY CONTENTS ATTRIBUTES FILE AS BACKUP DATA

FIG. 17

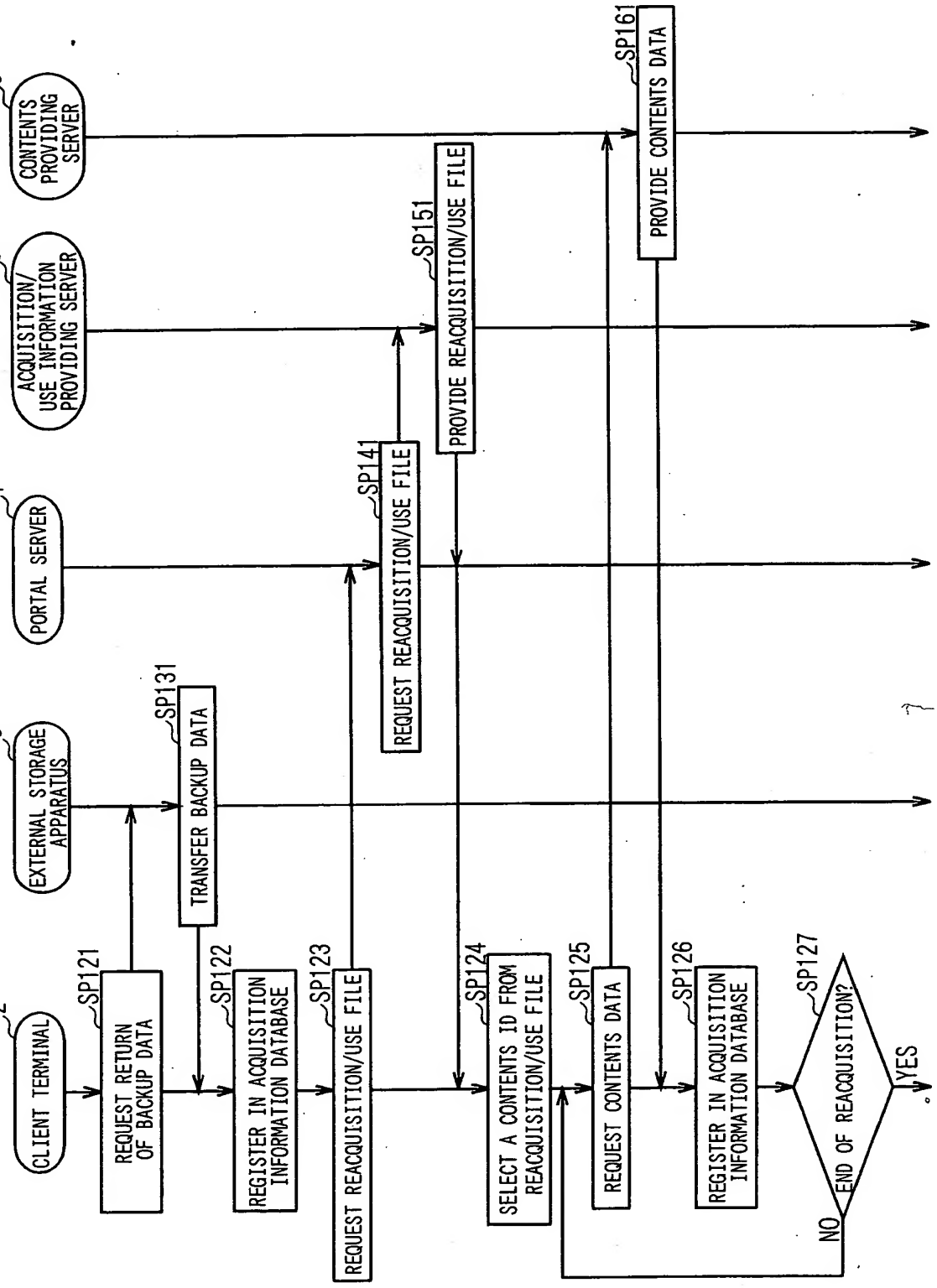
CLIENT TERMINAL
2
EXTERNAL STORAGE APPARATUS
9
PORTAL SERVER
4
ACQUISITION/ USE INFORMATION PROVIDING SERVER
5
CONTENTS PROVIDING SERVER
6
REQUEST RETURN OF BACKUP DATA
SP121
TRANSFER BACKUP DATA
SP131
REGISTER IN ACQUISITION INFORMATION DATABASE
SP122
REQUEST REACQUISITION/USE FILE
SP123
REQUEST REACQUISITION/USE FILE
SP141
PROVIDE REACQUISITION/USE FILE
SP151
SELECT A CONTENTS ID FROM REACQUISITION/USE FILE
SP124
REQUEST CONTENTS DATA
SP125
PROVIDE CONTENTS DATA
SP161
REGISTER IN ACQUISITION INFORMATION DATABASE
SP126
END OF REACQUISITION?
SP127
YES
NO

FIG. 18

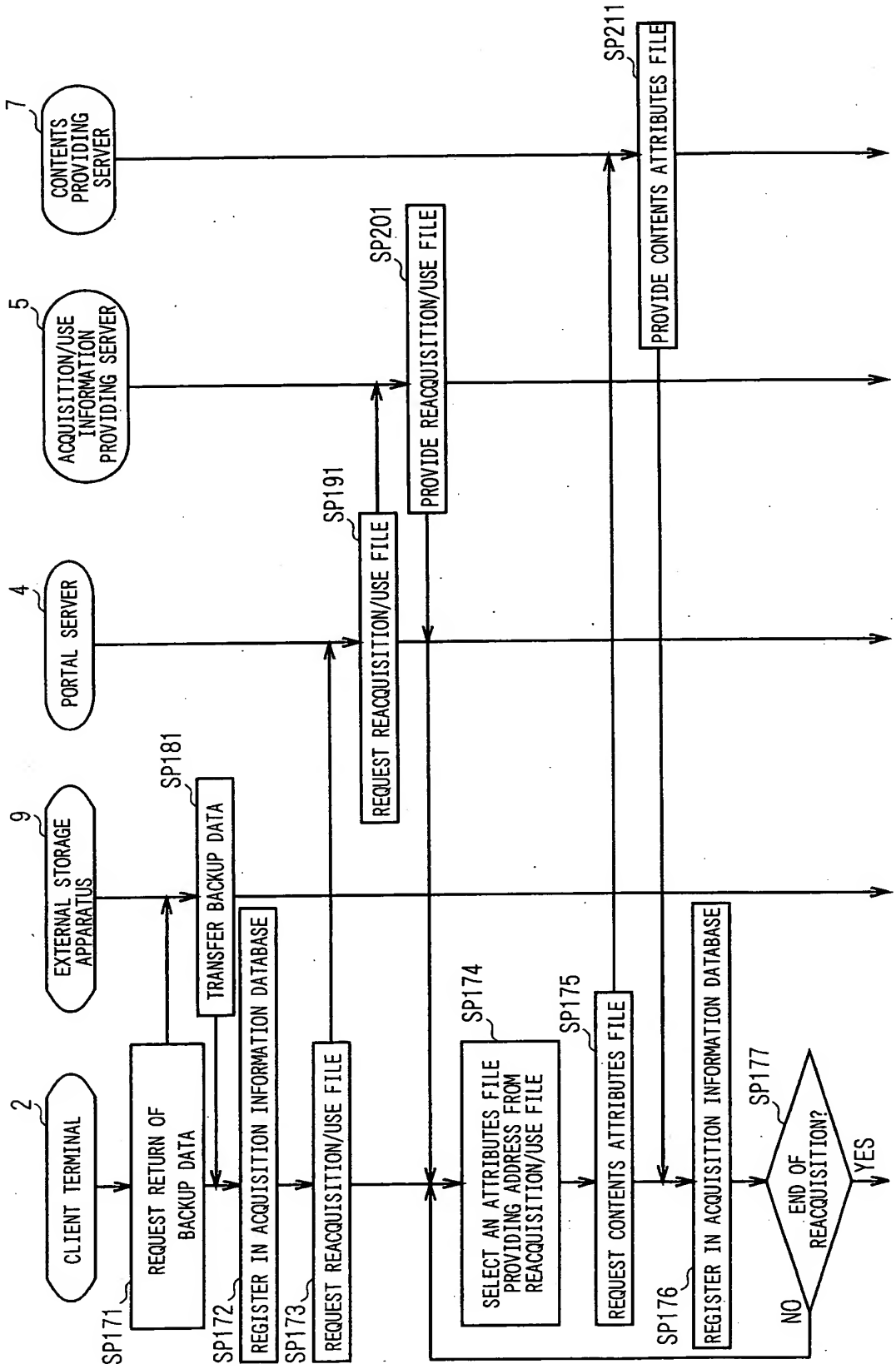
2
CLIENT TERMINAL
9
EXTERNAL STORAGE APPARATUS
4
PORTAL SERVER
5
ACQUISITION/USE INFORMATION PROVIDING SERVER
7
CONTENTS PROVIDING SERVER
SP171
REQUEST RETURN OF BACKUP DATA
SP181
TRANSFER BACKUP DATA
SP172
REGISTER IN ACQUISITION INFORMATION DATABASE
SP173
REQUEST REACQUISITION/USE FILE
SP191
REQUEST REACQUISITION/USE FILE
SP201
PROVIDE REACQUISITION/USE FILE
SP174
SELECT AN ATTRIBUTES FILE PROVIDING ADDRESS FROM REACQUISITION/USE FILE
SP175
REQUEST CONTENTS ATTRIBUTES FILE
SP211
PROVIDE CONTENTS ATTRIBUTES FILE
SP176
REGISTER IN ACQUISITION INFORMATION DATABASE
SP177
END OF REACQUISITION?
NO
YES

FIG. 19

EXPLANATION OF REFERENCE NUMERALS

1...DATA DELIVERY SYSTEM, 2...CLIENT TERMINAL, 3...NETWORK, 4...PORTAL SERVER, 5...ACQUISITION/USE INFORMATION PROVIDING SERVER, 6...CONTENTS PROVIDING SERVER, 7...ATTRIBUTES INFORMATION PROVIDING SERVER 8...ACCOUNTING SERVER, 25...ACQUISITION/USE FILE, 40...CONTROL SECTION, 44...DATA COMMUNICATION PROCESSING SECTION, 47...CONTENTS ATTRIBUTES FILE, 100...CPU, 102...ROM, 104...HARD DISK DRIVE, 114...COMMUNICATION PROCESSING SECTION, 115...NETWORK INTERFACE, 130...HTTP MESSAGE PROGRAM, 131...COMMUNICATOR PROGRAM, 113...COPYRIGHT PROTECTION/MANAGEMENT MODULE, 135...MUSIC CONTENTS PURCHASE/ REPRODUCTION MODULE, 136...XML BROWSER, 137...HARD DISK CONTENTS CONTROLLER, 139...DATABASE ACCESS MODULE, 140...CONTENTS DATA ACCESS MODULE